

True cats, like the jaguar and the tiger, roam the forests; and weasels and otters inhabit the banks of the streams.

The modern time has come, so far as the patterns of the animals are concerned; but their habitations are still different from those which their representatives preserve at the present day. But nearly all the post-pliocene quadrupeds belong to different species from those now living.

The present appearance of the mammalian family in North America is due to the following changes:—The llamas, sloths, tapirs, and peccaries have all been banished to Mexico and South America; so also most of the large cats. The horses, mastodons, and elephants were extinguished. The deer type seems to have expanded, while one ox (the bison) and an antelope remain. The wild dogs, weasels, &c. number about as many species now as in the past, while the variety of bears seems to have increased; on the other hand only one of the large cats (the puma) remains. That strange creature the opossum still holds his own far away from his Australian kindred. The smaller rodent quadrupeds are almost as much varied as ever. Many of these changes have evidently been wrought by the glacial period. That frozen epoch brought down the arctic life, and either destroyed those forms that could not resist its rigours, or drove them into a more southern climate. The musk-ox then roamed through the southern States; the walrus haunted the coasts of Virginia; and the reindeer peopled New Jersey. With the return of the milder period these again sought the north.

But a small proportion of the actual number of the species which lived during these successive ages is yet known, and the field offers many returns for exploration. As an illustration of the manner in which opinions respecting the history of life may be corrected by discovery, I cite two examples. The bony gar-fishes have been often pointed to as exhibiting a remarkable break in the times of appearance in geological history. Their latest fossil relatives were known to have existed during the ancient period called the jurassic; they did not recur until the present, and now only in the fresh waters of North America. This break of at least one third of all geological time has been recently much reduced by the discovery of gars in great abundance in the Miocene and Eocene periods on this continent. The second case is that of the serpents. They were only known for a long time in the Eocene of New Jersey, then in the same epoch of Wyoming, and lately in the Miocene of Colorado.

Until recently no fossil monkeys, bats, or opossums were known to exist in American formations; and the curious intermediate divisions above described as related to elephant, rhinoceros, tapir, hog, camel, horse, monkey, &c. are all recent American discoveries.—*The Penn Monthly*, Feb. 1874.

*On Xenelaphus, Furcifer, and Coassus peruvianus of the Peruvian Alps.* By Dr. J. E. GRAY, F.R.S. &c.

Mr. Whitely has sent to the British Museum the skins and skulls of a male and female Peruvian deer from Ceuchupate, Peru, at an elevation of 11000 feet.

The male, which he calls "Oieidos," is evidently the same animal as I described (from specimens which he had previously collected) as *Xenelaphus chilensis* (Ann. & Mag. Nat. Hist. 1873, xii. p. 161), and as the male of the young animal which MM. Gay and Gervais had described in the 'Ann. Sci. Nat.' 1846, p. 21, and figured with the skull in the Atlas to Gay's 'Chili.' They live in large troops.

Mr. Whitely's specimen shows that the horns of the animal which I described as *Xenelaphus* are probably a malformation both in form and surface; for they were covered with beads, whereas the horns of the specimen just received have a simple, subulate, slightly grooved beam 9 inches long, with a brow-antler of the same form 6 inches long, curved upwards and inwards at the tip.

The colouring of the face and shape of the horns of Mr. Whitely's specimen agree with the figure of *Cervus antisiensis* given in the 'Atlas' to D'Orbigny's 'Voyage dans l'Amérique méridionale,' t. xx., published in 1847. The skull of this animal does not seem to have been observed; but it probably represents the same species as *Cervus chilensis* of Gay and Gervais.

As the genus *Furcifer* of Sundevall was established for the *Cervus antisiensis* of D'Orbigny, and restricted by me to the guemul, it will have the priority and take the place of the genus *Xenelaphus*, established on an animal that probably has anomalous horns.

MM. Gay and Gervais published the account of *Cervus chilensis* in 1846; and Gay afterwards figured the skull, which leaves no doubt about the identity of the species. Their specific name will have priority, and the animal will have to be called *Furcifer chilensis*.

The female specimen, which is named "Venados," is much smaller and has a softer fur; they live always in pairs, and never mix with the Oieidos. It has the general colouring of the "Oieidos" (*Furcifer chilensis*), but the top of the face is blackish. This specimen is accompanied by its skull, and is evidently the same species as the skull of a female obtained from Mr. Whitely in 1873 from Peru, which is figured in the 'Hand-list of Ruminants,' t. xxxv. fig. 2, and as the skull of a male with deformed horns, received from the Zoological Society under the name of *Cervus antisiensis*, and figured in the 'Hand-list,' t. xxxv. fig. 1,—both as *Furcifer antisiensis*. These skulls differ from *Xenelaphus chilensis* and *Huamela leucotis* in having only a small shallow tear-pit, whereas those animals have a large deep one.

There is no doubt that the "Venados" of Peru is quite distinct from all the other South-American deer or skulls of deer that we have in the Museum. The skulls agree with those of *Coassus* in the small size of the tear-pit; but I do not venture to decide to what genus the only male skull that we have with deformed horns is to be referred, but will denominate it *Cervus* (*Coassus*) *peruvianus*, distinguished from all the other species of *Coassus* by its large size, of which *Furcifer antisiensis*, Gray (Ann. & Mag. Nat. Hist. 1873, xii. p. 162, Hand-list of Ruminants, t. xxxv. figs. 1 & 2), will be a synonym. It is quite distinct from the *Coassus Whitelyi*, Gray (Ann. & Mag. Nat. Hist. 1873, xii. p. 163, Hand-list of Ruminants, t. xxxii. fig. 2), also from Peru.